

General Arboriculture Safety Standards and Practices



Presented by:

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Arboriculture Work

Arboriculture work, including:

- Tree inspection
- Pruning
- Chipping
- Installation of support systems; and
- Felling

is required to ensure healthy and safe trees



Arboriculture Work

Public Requirement:

- Trees are important public asset
- Public desires and needs trees
 - Public health
 - Environmental protection
 - Business success
 - Reduce certain public costs
 - Cultural practices
 - Food
 - Aesthetics
- Must be preserved, protected and maintained



Arboriculture Work

Work high and near to trees and potentially dangerous equipment is required:

- Trees grow tall and large
- Tree workers must
 - Enter and work in tall tree crowns
 - Cut and fall large trees and tree parts
 - Move, cut and chip fallen wood



Arboriculture Work

Exposes workers to potentially hazardous conditions including, but not limited to:

- Falls
- Crushing from falling/moving trees/tree parts
- Electrical contacts
- Lacerations from cutting equipment
- Animal and insect injuries



Why Safety?

- Arboriculture (35 deaths/100,000 workers/year)
 - For all industries (USA) the average fatality rate is 4 deaths /100,000/year
- Arborist: Chance of injury = 1:1,200
 - 3 times higher than Police or Fire
- Risk of serious accident (2 days in hospital or death) for tree worker = 1:120
- Tree workers experience 6.4 deaths per 100 accidents



Why Safety?

- Most common accident is “Hit by _____”
- Though the equipment has gotten safer, accident rates have gone up (Attitude or overdependence on safety equipment?)



Arboriculture Work

Work can be conducted safely with low risk of injury

- Qualified workers
- Proper tools and equipment
- Technically correct practices and procedures



Arboriculture Work

Unfortunately, work is sometimes conducted by unqualified workers and/or improper work practices

- Significantly increases risk to worker and public
- Results in injuries and sometimes fatalities
- Costs employers much money
- Damages trees
- Wastes time addressing injuries and property damage



Common Causes of Fatal Accidents

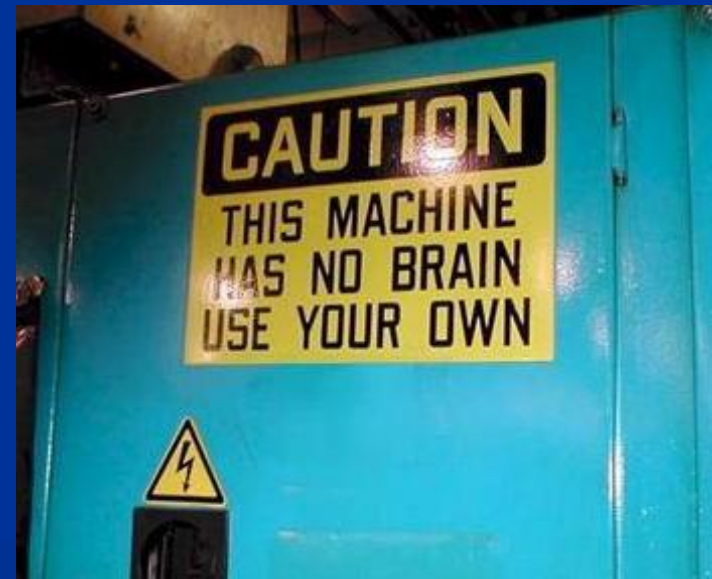
1. Struck by tree or branch
 - No safe work zone established
 - Inadequate communications
 - Improper felling practices
2. Falls – ropes or aerial platforms
 - Disconnect fall protection
 - Cut fall protection
 - Platform or boom failure
3. Electrocution
 - Inadequate tree and site inspection



Common Causes of Fatal Accidents

Root cause:

- Inadequate training, knowledge and experience
- Nonconformance with safe practices and procedures
- Improper tools or equipment
- Damaged tools or equipment



Training

The more outside training, the safer the company

- Only 1/2 of companies conduct outside safety training, but
- They have an accident rate 1/3 of other half.



Safety Attitude

Safety is an Attitude/State of Mind

- Concentration and attention to work
- Knowledge of safety equipment & practices
- Consistent, appropriate safety practices



Safety Attitude

Safety must be built into every task performed by tree workers.



Laws and Regulations

Occupational Safety and Health Act administered by
Occupational Safety and Health Administration (OSHA)



Laws and Regulations

Terminology

- Approved – Procedures described are acceptable to government
- Shall – Procedure is required
- Should – Procedure is strongly recommended



Laws and Regulations

ANSI Z133.1 Safety Standards for arborists (USA)

- Standards of safety for arborist work
- Pruning, repairing maintaining or removing trees or brush
- Recognized in USA as primary safety standard
- Reviewed and updated every 5 years



Laws and Regulations

ANSI Z133.1

- Employers must ensure regulations and policies are met
- Workers must follow all regulations



Preventing Accidents

Consider 4 main factors:

- People
- Tools
- Work technique
- Work environment



People factor most important – Employers and workers who disregard safety and ignore hazards are major cause of accidents

Duty of Care

As a tree care professional, you have the ability and duty to prevent accidents and injury

- Only permit competent persons to conduct work
- Ensure use of all proper tools and equipment
- Utilize proper practices and procedures
 - Recognize safety hazards
 - Minimize safety risk



Competent Person

Person with specific training and/or experience

- Capable of identifying existing and predictable hazards
- Within tree, site or working conditions
- Hazardous or dangerous to employees, and
- Authorized to take corrective measures to eliminate them



Competent Person

Competent Person determined by employer

- May be restricted to one or few aspects of work
- Competent person may be Qualified Arborist.



Training Requirements

Training should include:

- Qualified instructor
- Standardized training program
 - Required knowledge and skills
- Recognized by international industry authority



Training Requirements

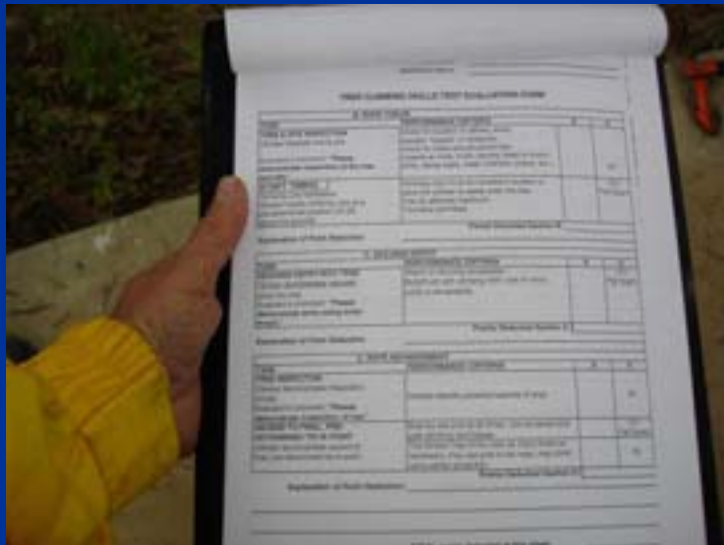
- Adequate time for practice of knowledge, skill and equipment to develop required proficiency
- Successful demonstration of each knowledge and skill
- Documentation of training and proficiency



Training Requirements

On-the-job (OJT) accepted

- Competency Checklists



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PHASE I - GROUND PERSON COMPETENCY CERTIFICATION CHECK SHEET ON-THE-JOB TRAINING

During the first few weeks that a new employee is on the job, it is important we assess his or her abilities and instruct in those areas where training is needed. This will require the joint effort of both the crew leader and the instructor, working together, to be sure the new employee works safely and performs his or her job properly.

To guide you in your on-the-job training effort the items on this form are to be initiated by both the employee and the instructor as each item is discussed and demonstrated by the instructor and then accomplished by the new employee. Items need not be covered in the same order shown on the form, but they must be covered thoroughly and in a systematic manner. Refer to the Job Skills section of the Safety and Health Plan for guidance in determining the proper level of knowledge which should be displayed.

Name of the employee: Anthony J. DeLeon Foreman: Chris Williams
 Date Hired: 07-11-04 Instructor: Chris Williams
 Position: Chain Saws Date Completed: 12-13-04

Proper Attire	
Hardhat	<input checked="" type="checkbox"/>
High topped boots	<input checked="" type="checkbox"/>
Eye protection	<input checked="" type="checkbox"/>
Chaps	<input checked="" type="checkbox"/>
Long pants	<input checked="" type="checkbox"/>
Shin	<input checked="" type="checkbox"/>
Rat Protection	<input checked="" type="checkbox"/>

Area Safety and Work Zone Safety

Proper placement of signs, flags, cones, wheel chocks	INITIALS / DATE
Crew coordination in signaling motorists	<u>CB / WS / AB</u>
Assisting driver in backing situations	<u>CB / WS / AB</u>
Stabilizing the truck for aerial lift operations	<u>CB / WS / AB</u>

Hand Tools

Proper use of hand saw	<u>CB / WS / AB</u>
Proper use of pole saw	<u>CB / WS / AB</u>
Proper use of pole pruner	<u>CB / WS / AB</u>
Proper use of hand pruner	<u>CB / WS / AB</u>
Climbing line (coil, tie, throw, etc.)	<u>CB / WS / AB</u>
Pull Lines (directional control)	<u>CB / WS / AB</u>
Lowering Lines (basic handling procedures)	<u>CB / WS / AB</u>

Chain Saw Use

Eye protection and ear protection	<u>CB / WS / AB</u>
Clean and maintain a saw	<u>CB / WS / AB</u>
Understands safety features (chain brake, chain catcher, throttle interlock)	<u>CB / WS / AB</u>
Sharpen a saw	<u>CB / WS / AB</u>
Starting procedure	<u>CB / WS / AB</u>
Both hands on the saw	<u>CB / WS / AB</u>
Left thumb underneath handbar	<u>CB / WS / AB</u>
Keeps bar tip clear (kickback zone)	<u>CB / WS / AB</u>
Not using above head	<u>CB / WS / AB</u>
Out of kickback path (body positioning)	<u>CB / WS / AB</u>
Use of chain saw chaps	<u>CB / WS / AB</u>
Use of wedges	<u>CB / WS / AB</u>
Mixing fuel	<u>CB / WS / AB</u>
Good balance and control	<u>CB / WS / AB</u>
Safe distance from others	<u>CB / WS / AB</u>
Uphill side of work	<u>CB / WS / AB</u>
Proper limbing and bucking techniques	<u>CB / WS / AB</u>

Training Requirements

Must be on-going

- Regular, documented training applicable to job
- Recommended minimum annual re-qualification review



Training Requirements

Employers must conduct regular, documented field supervision and inspection

- Ensure that each employee is complying with all appropriate requirements



Training Requirements

Employees must receive additional training if:

- Non-compliance is observed or reported;
- New equipment, work practices, procedures or techniques used;
- Tools, equipment, practices, procedures or techniques that are not familiar or are applied in a different manner are used; or
- A job skill, tool, equipment, practice, procedure or technique is not used within 1 year.



Training Topics

- Applicable laws and regulations
- Safe, correct use of tools and equipment
- Safe, correct conduct of work practices
- Recognition of potential hazards for each task/tool/equipment
- Work practices to avoid or minimize safety risks.



First Aid Requirements

- Fully stocked first-aid kit, appropriate for the hazards that may be encountered
 - Must be on-site
 - Readily accessible at all times



First Aid Requirements

All employees on-site shall be instructed about the location and the use of the first aid kit



First Aid Requirements

- **Number of first-aid kits and content of each kit shall:**
 - Reflect the degree of isolation
 - Cover the number of employees
 - Address the hazards reasonably anticipated at the work site



First Aid Requirements

OSHA § 1910.266 provides a good listing of the contents of first-aid kits for crews of 2 to 3



First Aid Requirements

Employees trained how to recognize and avoid work hazards that may be encountered



First Aid Requirements

Employees shall be trained in emergency response and procedures for injuries that can result from hazards that may be encountered on the job.



Certification

Employer or its designated authority must certify that person is competent/qualified

- Certification restricted to employer
 - Not transferable
 - Not applicable beyond employer
- No person should be permitted to conduct tasks or use tools/equipment until certified competent/qualified.



Key Safety Practices

Safe operations must include:

- Tree inspection
- Site inspection
- Equipment inspection
- Work Plan
- Job brief
- Safe work practices



Tree Inspection

Workers shall inspect the tree to identify potential hazard

- Prior to conducting any work
- Whenever incidents occur that may damage tree



Tree Inspection

Process:

- Walk around entire tree to examine all tree parts
 - Roots, root crown, trunk, scaffold limbs, branches
- As climb/lift into tree – inspect for conditions not visible from ground
- While working – continue to inspect for changing conditions



Tree Inspection

Common hazards:

- Dead or broken limbs
- Signs of decay
- Cavities
- Abnormal cracks
- Cavity populating insects
- Dangerous animals/insects
- Weak branch unions
- Root collar decay
- Root damage



Tree Inspection

Pre-work inspection also used to plan tree entry and work

- Select entry method
- Select entry route
- Determine tie-in points
- Develop work plan.

